

Learning to Fly: The Wright Brother's Adventure			
1998 Science			
Content Standards			
California Science			
Grade 6			
Activity/Lesson	State	Standards	
Meet the Wrights	CA	SCI.6.ESIE.7.d	Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will Communicate the steps and results from an investigation in written reports and oral presentations
1904: Improvement in Dayton	CA	SCI.6.ESIE.7.d	Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will Communicate the steps and results from an investigation in written reports and oral presentations
Learning to Fly: The Wright Brother's Adventure			
1998 Science			
Content Standards			
California Science			
Grade 7			
Activity/Lesson	State	Standards	
The Society	CA	SCI.7.LSIE.7.b	Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will Use a variety of print and electronic resources (including the World Wide Web) to collect information and evidence as part of a research project

Meet the Wrights	CA	SCI.7.LSIE.7.e	Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will Communicate the steps and results from an investigation in written reports and oral presentations
New Data	CA	SCI.7.LSIE.7.c	Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will Communicate the logical connection among hypotheses, science concepts, tests conducted, data collected, and conclusions drawn from the scientific evidence
1904: Improvement in Dayton	CA	SCI.7.LSIE.7.e	Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will Communicate the steps and results from an investigation in written reports and oral presentations
<b>Learning to Fly: The Wright Brother's Adventure</b>			
<b>1998 Science</b>			
<b>Content Standards</b>			
<b>California Science</b>			
<b>Grade 8</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
1901: The First Improvement	CA	SCI.8.PC.2.a	Students know a force has both direction and magnitude.
1901: The First Improvement	CA	SCI.8.PC.2.b	Students know when an object is subject to two or more forces at once, the result is the cumulative effect of all the forces.
1901: The First Improvement	CA	SCI.8.PC.2.c	Students know when the forces on an object are balanced, the motion of the object does not change.
1901: The First Improvement	CA	SCI.8.PC.2.d	Students know how to identify separately the two or more forces that are acting on a single static object, including gravity, elastic forces due to tension or compression in matter, and friction.

1901: The First Improvement	CA	SCI.8.PC.2.e	Students know that when the forces on an object are unbalanced, the object will change its velocity (that is, it will speed up, slow down, or change direction).
1901: The First Improvement	CA	SCI.8.PC.2.f	Students know the greater the mass of an object, the more force is needed to achieve the same rate of change in motion.
1901: The First Improvement	CA	SCI.8.PCIE.9.c	Distinguish between variable and controlled parameters in a test.
New Data	CA	SCI.8.PCIE.9.e	Construct appropriate graphs from data and develop quantitative statements about the relationships between variables.
1902: Success at Last	CA	SCI.8.PC.1.c	Students know how to solve problems involving distance, time, and average speed.
1902: Success at Last	CA	SCI.8.PCIE.9.f	Apply simple mathematic relationships to determine a missing quantity in a mathematic expression, given the two remaining terms (including speed = distance/time, density = mass/volume, force = pressure x area, volume = area x height).
1903: Powered Flight	CA	SCI.8.PC.1.b	Students know that average speed is the total distance traveled divided by the total time elapsed and that the speed of an object along the path traveled can vary.
1903: Powered Flight	CA	SCI.8.PC.1.c	Students know how to solve problems involving distance, time, and average speed.
1903: Powered Flight	CA	SCI.8.PCIE.9.e	Construct appropriate graphs from data and develop quantitative statements about the relationships between variables.
1903: Powered Flight	CA	SCI.8.PCIE.9.g	Distinguish between linear and nonlinear relationships on a graph of data.
1904: Improvement in Dayton	CA	SCI.8.PC.2.a	Students know a force has both direction and magnitude.
1904: Improvement in Dayton	CA	SCI.8.PC.2.b	Students know when an object is subject to two or more forces at once, the result is the cumulative effect of all the forces.
1904: Improvement in Dayton	CA	SCI.8.PC.2.d	Students know how to identify separately the two or more forces that are acting on a single static object, including gravity, elastic forces due to tension or compression in matter, and friction.
1904: Improvement in Dayton	CA	SCI.8.PC.2.f	Students know the greater the mass of an object, the more force is needed to achieve the same rate of change in motion.
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<b>Grades 9-12 (Physics)</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
1901: The First Improvement	CA	SCI.9-12.PH.1.b	Newton's laws predict the motion of most objects. As a basis for understanding this concept Students know that when forces are balanced, no acceleration occurs; thus an object continues to move at a constant speed or stays at rest (Newton's first law)
1901: The First Improvement	CA	SCI.9-12.PH.1.c	Newton's laws predict the motion of most objects. As a basis for understanding this concept Students know how to apply the law $F = ma$ to solve one-dimensional motion problems that involve constant forces (Newton's second law)
1901: The First Improvement	CA	SCI.9-12.PH.1.d	Newton's laws predict the motion of most objects. As a basis for understanding this concept Students know that when one object exerts a force on a second object, the second object always exerts a force of equal magnitude and in the opposite direction (Newton's third law)
1901: The First Improvement	CA	SCI.9-12.PH.1.j	Newton's laws predict the motion of most objects. As a basis for understanding this concept Students know how to resolve two-dimensional vectors into their components and calculate the magnitude and direction of a vector from its components
1901: The First Improvement	CA	SCI.9-12.PH.1.k	Newton's laws predict the motion of most objects. As a basis for understanding this concept Students know how to solve two-dimensional problems involving balanced forces (statics)
1901: The First Improvement	CA	SCI.9-12.PH.2.f	The laws of conservation of energy and momentum provide a way to predict and describe the movement of objects. As a basis for understanding this concept Students know an unbalanced force on an object produces a change in its momentum
1901: The First Improvement	CA	SCI.9-12.PH.5.n	Electric and magnetic phenomena are related and have many practical applications. As a basis for understanding this concept Students know the magnitude of the force on a moving particle (with charge $q$ ) in a magnetic field is $qvB \sin(a)$ , where $a$ is the angle between $v$ and $B$ ( $v$ and $B$ are the magnitudes of vectors $v$ and $B$ , respectively), and students use the right-hand rule to find the direction of this force

1903: Powered Flight	CA	SCI.9-12.PH.1.a	Newton's laws predict the motion of most objects. As a basis for understanding this concept Students know how to solve problems that involve constant speed and average speed
1904: Improvement in Dayton	CA	SCI.9-12.PH.1.c	Newton's laws predict the motion of most objects. As a basis for understanding this concept Students know how to apply the law $F = ma$ to solve one-dimensional motion problems that involve constant forces (Newton's second law)
1904: Improvement in Dayton	CA	SCI.9-12.PH.1.d	Newton's laws predict the motion of most objects. As a basis for understanding this concept Students know that when one object exerts a force on a second object, the second object always exerts a force of equal magnitude and in the opposite direction (Newton's third law)
1904: Improvement in Dayton	CA	SCI.9-12.PH.1.g	Newton's laws predict the motion of most objects. As a basis for understanding this concept Students know circular motion requires the application of a constant force directed toward the center of the circle
1904: Improvement in Dayton	CA	SCI.9-12.PH.1.j	Newton's laws predict the motion of most objects. As a basis for understanding this concept Students know how to resolve two-dimensional vectors into their components and calculate the magnitude and direction of a vector from its components